

"Version with Markings to Show Changes Made"

IN THE CLAIMS:

Independent claims 1, 6, 8, 13 and 14 have been amended as follows:

1. (Amended) An apparatus for providing a virtual volume, the apparatus comprising:

a plurality of disks;

a plurality of back-end controller coupled to the plurality of disks for organizing and presenting the plurality of disks as a plurality of redundant arrays of disks; and

a front-end controller coupled to the plurality of back-end controllers for generating mirror sets from the plurality of redundant arrays of disks received from the plurality of back-end controllers, striping the plurality of redundant arrays of disks and presenting the striped arrays as a virtual volume.

6. (Amended) An apparatus for providing a virtual volume, the apparatus comprising:

a plurality of disks;

a redundant array of independent disks (RAID) engine comprising a plurality of back-end controllers coupled to the plurality of disks for organizing and presenting the plurality of disks as a plurality of RAID sets; and

a striping engine coupled to the RAID engine for receiving the plurality of RAID sets as members, generating mirror sets from the plurality of RAID sets from the plurality of back-end controllers, striping the member RAID sets, and presenting the striped member RAID sets as a virtual volume.

8. (Amended) An apparatus for providing a virtual volume, the apparatus comprising:

a plurality of back-end controllers, each configured to organize and present X N-member RAID sets, and each having N busses capable of supporting X+1 disks each;

a plurality of groups of $X+1$ disks, wherein each disk in the group is coupled to one of the N busses associated with one of the plurality of back-end controller busses; and

a local front-end controller coupled to the plurality of back-end controllers for receiving the X N -member RAID sets as members, striping the X N -member RAID sets, and presenting the striped X N -member RAID sets as a virtual volume,

wherein the local front-end controller is configured to generate mirror sets from the RAID sets received as members from different back-end controllers, to stripe the mirror sets, and to present the striped mirror sets as the virtual volume.

13. (Amended) An electronic system comprising:

a computer; and

an apparatus coupled to the computer for presenting a virtual volume to the computer, the apparatus including:

a plurality of disks;

a plurality of back-end controller coupled to the plurality of disks for organizing and presenting the plurality of disks as a plurality of redundant arrays of disks; and

a front-end controller coupled to the plurality of back-end controllers for generating mirror sets from the plurality of redundant arrays of disks, striping the plurality of redundant arrays of disks and presenting the striped redundant arrays of disks as the virtual volume.

14. (Amended) A method of storing data on a plurality of disks, the method comprising:

using a plurality of back-end controllers, organizing the plurality of disks into a plurality of redundant arrays of disks;

using at least one front-end controller, generating mirror sets from the plurality of redundant arrays of disks, striping the plurality of redundant arrays of disks together to form a virtual volume; and

writing the data to the virtual volume.

DRAFT